JVC

SERVICE MANUAL

MODEL 9501LS

FM-LW-MW-SW1-SW2 5-BAND RADIO CASSETTE RECORDER

No. 1325
August 1976

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Specifications

DIMENSIONS: 24.6cm(H) x 37.4cm(W) x 10.1cm(D)
9-5/8" x 14-3/4" x 4"

WEIGHT: Approx. 4.4kg (with batteries)
9.7 lbs

TUNER SECTION

Frequency Ranges	:	FM	88 ~ 108MHz
		LW	150 ~ 350kHz
		MW	540 ~1600kHz
		SW1	5.95 ~ 6.20MHz (49m Band)
		SW2	6 ~ 18MHz
Intermediate Frequencies	:	FM	10.7MHz
		LW/MW/SW	455kHz
Antennas	:	FM/SW	Rod Antenna
		LW/MW	Ferrite Core Antenna

AMPLIFIER SECTION

Speaker	:	16cm (6-1/2") 8Ω
Power Output	:	Max. 5W (RMS)

RECORDER SECTION

Tape Speed	:	4.75cm/s (1-7/8 ips)
Track System	:	2-track Monaural
Monitor	:	Variable Sound Monitor System
Recording System	:	AC bias
Erasing System	:	AC erasing
Fast Forward Time	:	Within 100sec (C-60 cassette)
Rewind Time	:	Within 100sec (C-60 cassette)
Wow & Flutter	:	0.2% (WRMS)

POWER SOURCE

DC	:	9V 6 D-cells or equivalent
AC	:	110/220/240V 50/60Hz

Removal of Chassis

Rear Cabinet (Refer to Fig. 1)

1. Remove 5 special screws (1)~(5) : V43899-1.
2. Disconnect 3 connecting wires from the rod antenna (white), positive terminal of batteries (red) and negative terminal of batteries (black).

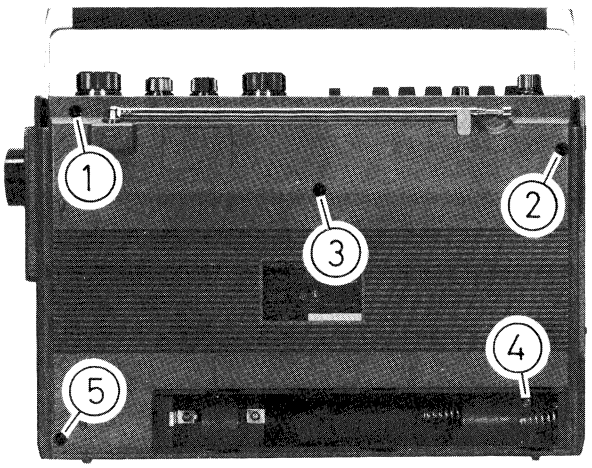

Fig. 1

Tuner Section (Refer to Fig. 2)

1. Take off BAND SELECT, BASS, TREBLE, VOLUME and tuning knobs.
2. Disconnect the connector (A), 3-pin socket (B) and 4-pin socket (C) from the amplifier section and the connector (D) on the speaker.
3. Remove 4 screws (6)~(9): SBSB3012Z, the screw (6) is located on the right (tuning knob) side of cabinet.

Power Supply Section (Refer to Figs. 2 & 3)

Remove 2 screws (10) & (11) : SBSB3012Z.

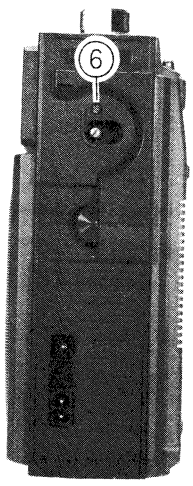

Fig. 2-A

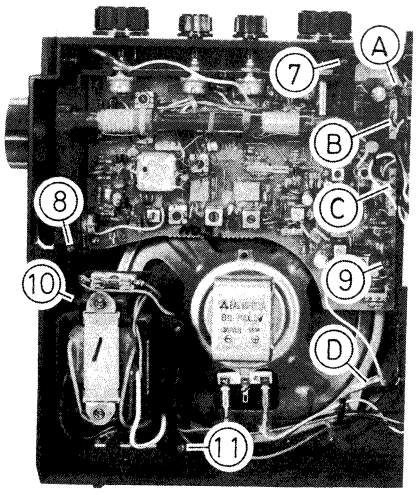

Fig. 2-B

Cassette Mechanism Section (Refer to Figs. 2 & 3.)

1. Take off the MIX BALANCE knob.
2. Disconnect the connector (E) on the negative terminal of speaker, 5 connectors (F) ~ (L) on the circuit board and 2 connectors (M) & (N) on the terminal ass'y.
3. Remove 5 screws (12)~(16) : SBSB3010Z.

Amplifier Circuit Board (Refer to Figs. 2 & 3.)

1. Remove 5 screws (17)~(21) : SPSP2606Z.
2. Disconnect connectors and sockets (A)~(N).

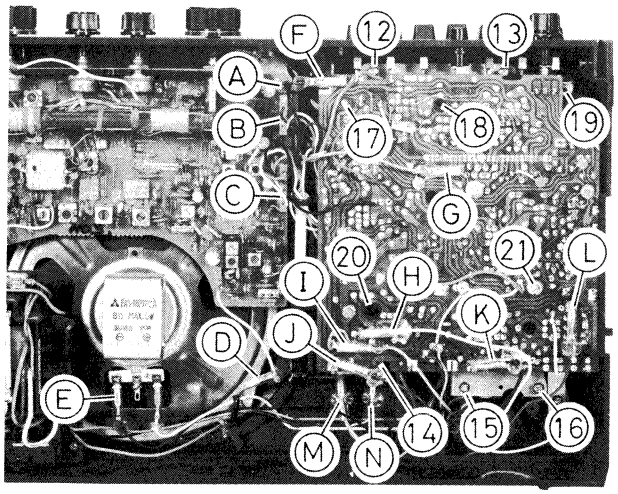

Fig. 3

How to Fit Dial Cord

1. Fit cord in accordance with the arrow mark while setting the variable capacitor on minimum.
2. Cord length : ϕ0.7 × 810mm. (27.6mil × 31-15/16")

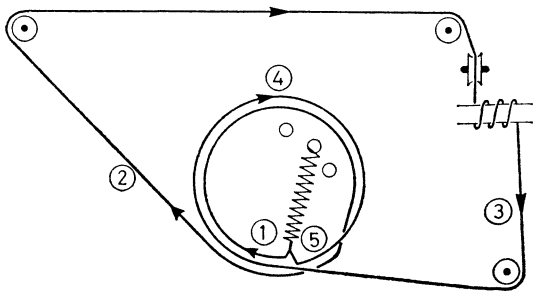

Fig. 4

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Tuner Alignment

Output Measuring: Speaker terminal (Impedance = 8Ω), output level 50mW (0.63V/8Ω)

AM IF & RF Alignment

Input (SSG) Modulation 400Hz, Modulated to 30%

Step	Frequency Band	Input Signal		Place to be aligned	Set the V. Capacitor to
		Frequency	Given to		
1	MW (IF)	145kHz	Loop Antenna	L13, 14, 15	Minimum
2		Repeat the Step 1, and adjust for no further improvement.			
3	LW	145kHz	Loop Antenna	L9	Maximum
4		360kHz		TC7	Minimum
5		Repeat the Steps 3 & 4.			
6		160kHz	Loop Antenna	L5	160kHz Signal
7		350kHz		TC3	350kHz Signal
8		Repeat the Steps 6 & 7, and adjust for no further improvement.			
9	MW	520kHz	Loop Antenna	L10	Maximum
10		1650kHz		TC8	Minimum
11		Repeat the Steps 9 & 10.			
12		600kHz	Loop Antenna	L6	600kHz Signal
13		1400kHz		TC4	1400kHz Signal
14		Repeat the Steps 12 & 13, and adjust for no further improvement.			
15	SW1	5.9MHz	Rod Antenna through Dummy Antenna	L11	Maximum
16		6.3MHz		TC9	Minimum
17		Repeat the Steps 15 & 16.			
18		5.95MHz	Rod Antenna through Dummy Antenna	L7	5.95MHz Signal
19		6.20MHz		TC5	6.20MHz Signal
20		Repeat the Steps 18 & 19, and adjust for no further improvement.			
21	SW2	5.8MHz	Rod Antenna through Dummy Antenna	L12	Maximum
22		18.6MHz		TC10	Minimum
23		Repeat the Steps 21 & 22.			
24		6.0MHz	Rod Antenna through Dummy Antenna	L8	6.0MHz Signal
25		18.0MHz		TC6	18.0MHz Signal
26		Repeat the steps 24 & 25, and adjust for no further improvement.			

Note: Set the shaft of midget variable capacitor (VC5) as shown in Fig. 8 when aligning.

FM IF & Discriminator Alignment (Refer to Figs. 5 to 8)

1. Connect sweep generator to test point TP3.
2. Connect oscilloscope to test point TP4 & 6.
3. Adjust L19 so that wave mode will be appeared on either side of flyback line. Refer to Figs. 5 & 6.
4. Adjust L4,16,17 & 18 for maximum and summetrical wave mode as shown inFig. 6.
5. Adjust L18 & 19 for symmetrical S-curve as shown in Fig. 7.

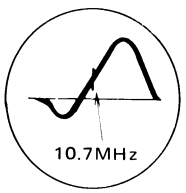


Fig. 5

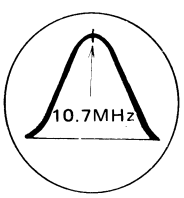


Fig. 6

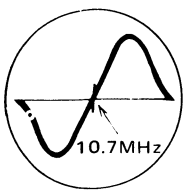


Fig. 7

FM RF Alignment

Input (SSG): Use 75Ω terminal, modulation 400Hz modulated to 22.5kHz deviation.
Connect Hot side to TP1 and Cold side to TP2.

Step	Frequency Band	Input Signal		Place to be aligned	Set the V. Capacitor to
		Frequency	Given to		
1	FM	87.5MHz	TP1 & TP2 (Refer to Fig. 8)	L3	Maximum
2		109MHz		TC2	Minimum
3		Repeat the Steps 1 & 2.			
4		90MHz	TP1 & TP2 (Refer to Fig. 8)	L1	90MHz Signal
5		106MHz		TC1	106MHz Signal
6		Repeat the Steps 4 & 5, and adjust for no further improvement			

Parts Arrangement for Alignment

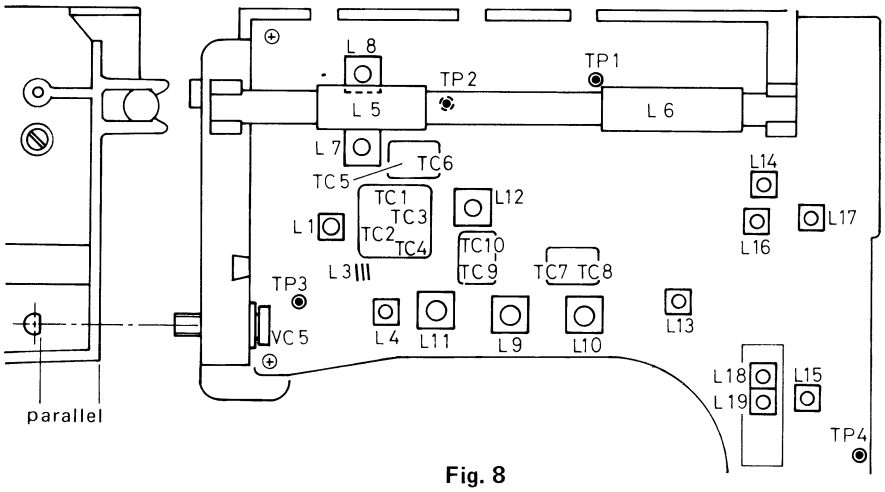


Fig. 8

Adjusting Recording Bias

Bias Frequency

1. Connect a frequency counter across A-B.
2. Set the BEAT CUTswitch to the lower position.
3. Adjust the oscillator coil L101 so that the counter indicates 72kHz.

Bias Current

1. Connect a V.T.V.M. across A-B.
2. Adjust the variable resistor R150 so that the voltage becomes 7mV.

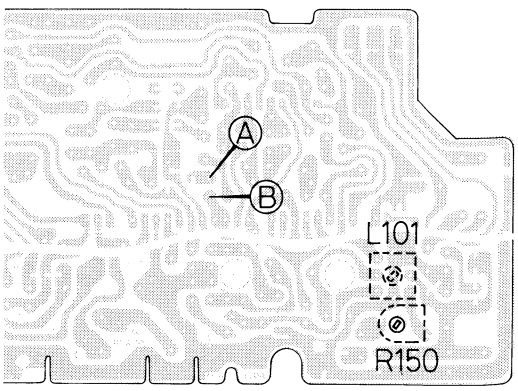


Fig. 9

Final Packing Ass'y

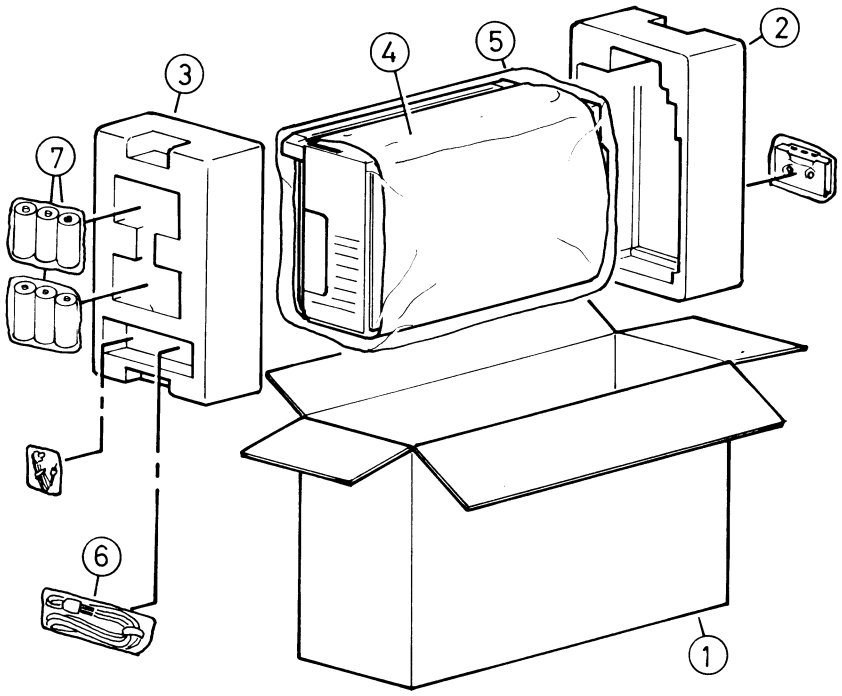


Fig. 10

Ref. No.	Parts No.	Parts Name	Description
1	VP3240-302	Carton Box	
2	VP1563-001	Side Cushion	Right
3	VP1564-001	"	Left
4	VHPJ079-036	Wrapping Paper	White Paper
5	QPGA050-05005	Cabinet Cover	
6	QPGA012-01505	Parts Sack	Power Cord
7	QPGA012-01505	"	Batteries

Accessories

Parts No.	Parts Name	Description
QME1308-004	Magnetic Earphone	
VGT12S2-J01	Demonstration Cassette	
V04056-1	Shorting Plug	Erasing
V43338-1	Head Cleaner	
QMP3950-183	Power Cord with Plug	

Schematic Diagram of 9501LS (Tuner)

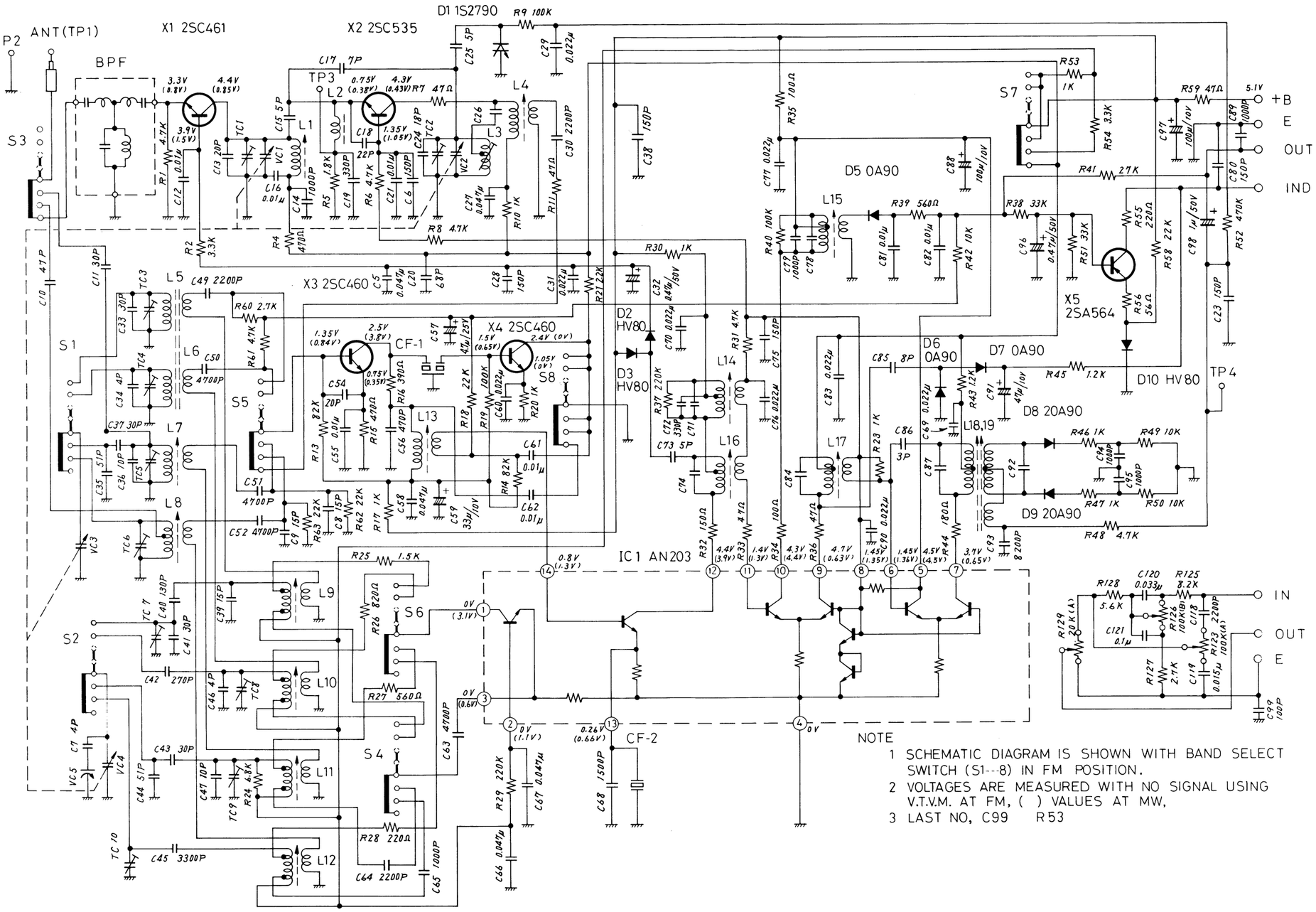
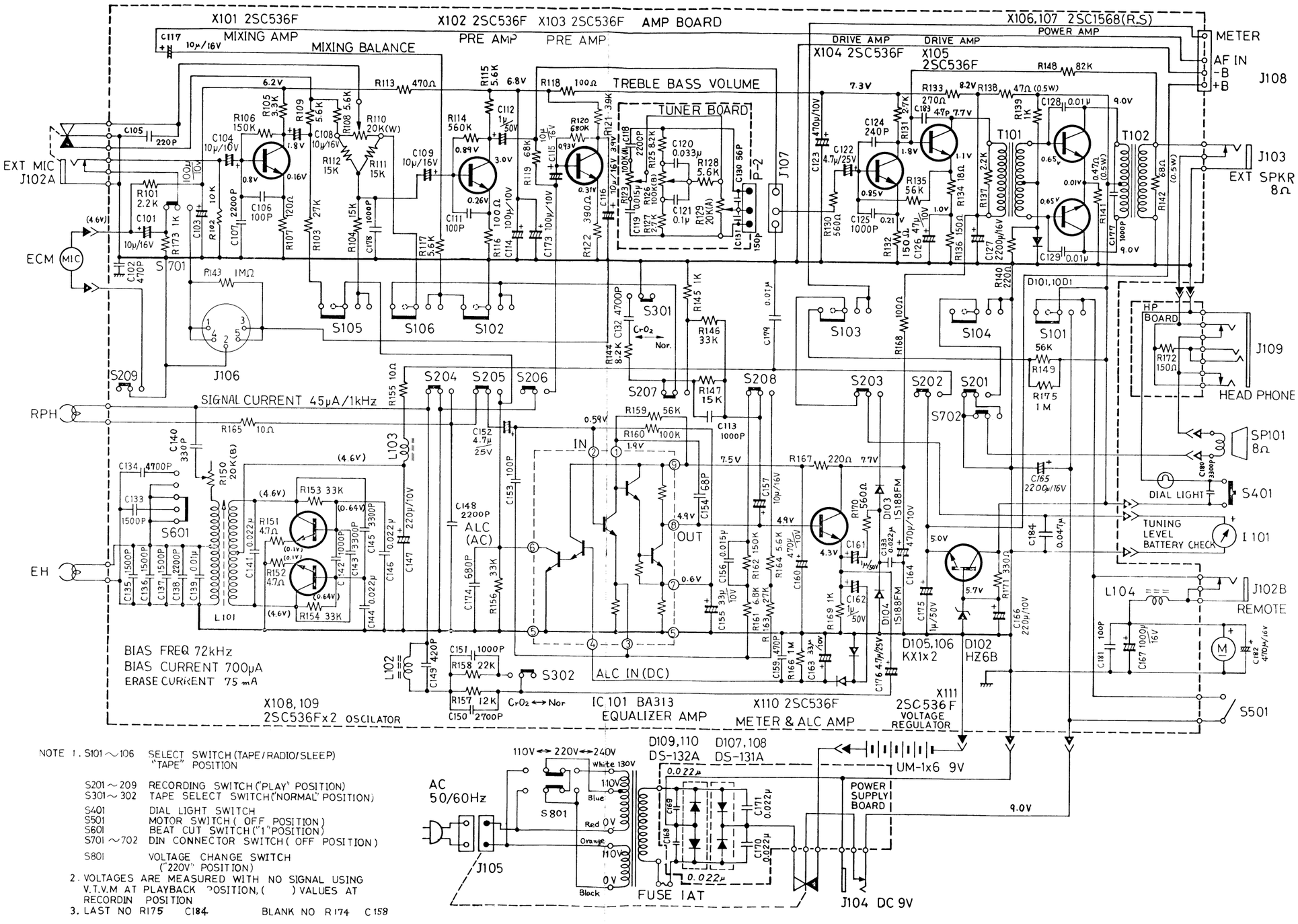


Fig. 11

Schematic Diagram of 9501LS (Amplifier)



NOTE 1. S101～106 SELECT SWITCH (TAPE/RADIO/SLEEP) "TAPE" POSITION

S201～209 RECORDING SWITCH ("PLAY" POSITION)
S301～302 TAPE SELECT SWITCH ("NORMAL" POSITION)
S401 DIAL LIGHT SWITCH
S501 MOTOR SWITCH (OFF POSITION)
S601 BEAT CUT SWITCH ("1" POSITION)
S701～702 DIN CONNECTOR SWITCH (OFF POSITION)
S801 VOLTAGE CHANGE SWITCH ("220V" POSITION)

2. VOLTAGES ARE MEASURED WITH NO SIGNAL USING V.T.V.M AT PLAYBACK POSITION, ( ) VALUES AT RECORDIN POSITION
3. LAST NO R175 C184 BLANK NO R174 C158

Fig. 12

Main Parts Location

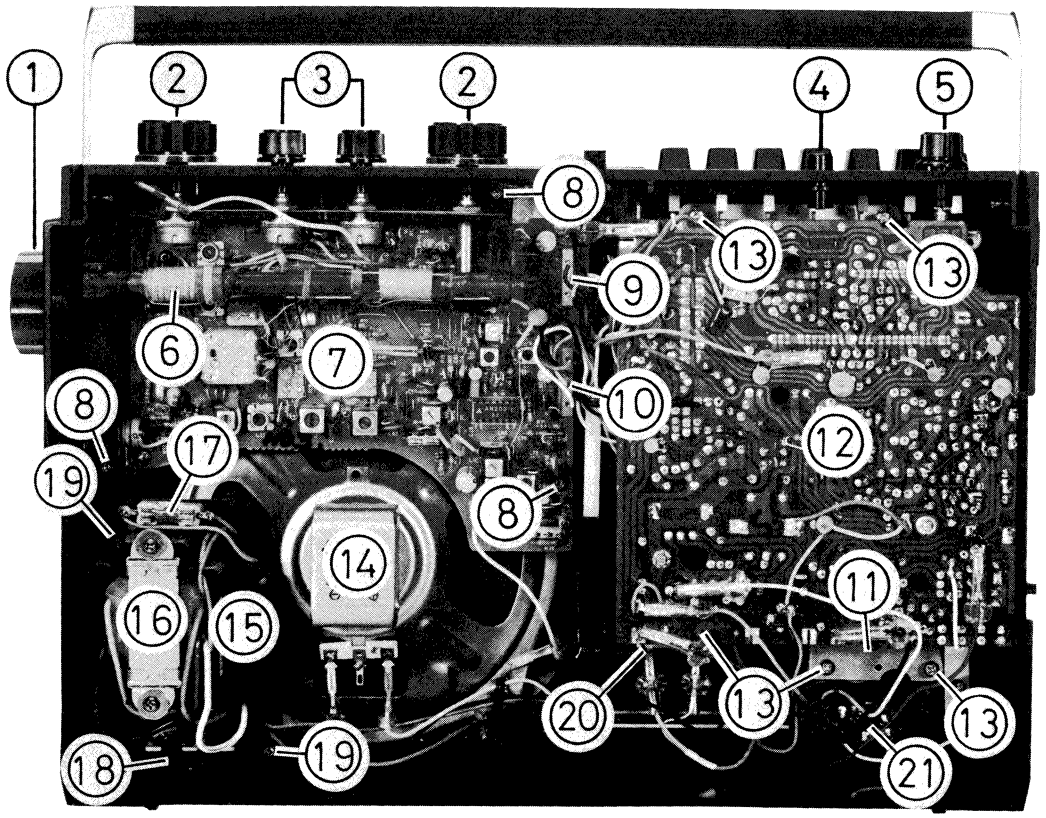


Fig. 13

Ref. No.	Parts No.	Parts Name	Description	Q'ty
1	VXK0040-30010	Knob	Tuning	1
2	VXKM232-30010	"	BAND, VOLUME	2
3	VXKM220-30010	"	BASS, TREBLE	2
4	V44813-001	Push Knob	TAPE	1
5	VXKM520-30010	Knob	MIX BALANCE	1
6	VQB016B-202	Bar Antenna Ass'y	L5,6	1
7	————	Circuit Board Ass'y	Tuner	1
8	SBSB3012Z	Screw		3
9	QMC0359-001	Socket Ass'y	3-pin J107	1
10	QMC0459-001	"	4-pin J108	1
11	————	Cassette Mechanism		1
12	————	Circuit Board	Amplifier	1
13	SBSB3010Z	Screw		5
14	EAS16P111SA	Speaker	16cm (6½") 8Ω	1
15	V20685-001	AC Chassis		1
16	VTP48N2-90C	Power Transformer	T103	1
17	QMF51A2-1R0	Fuse	1AT	1
18	QSS2325-005	Slide Switch	S801	1
19	SBSB3012Z	Screw		2
20	P4793E	Terminal Board Ass'y		1
21	————	Circuit Board Ass'y	Headphone	1

Note: The circuit board assemblies and cassette mechanism in this model will not be available as spare parts.

Exploded View of Front Cabinet

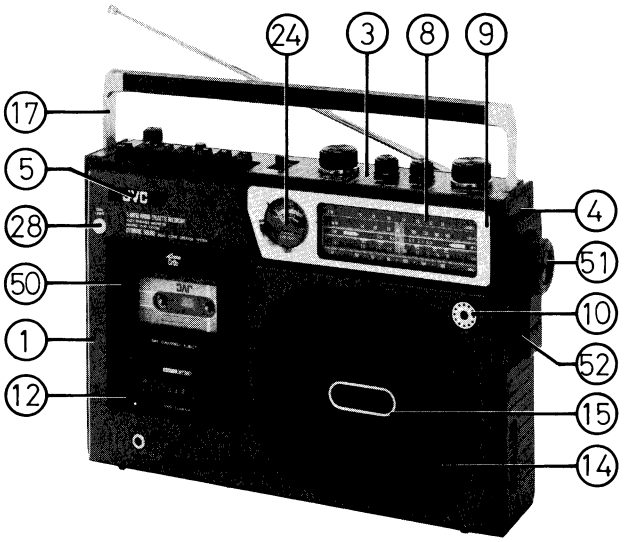


Fig. 14

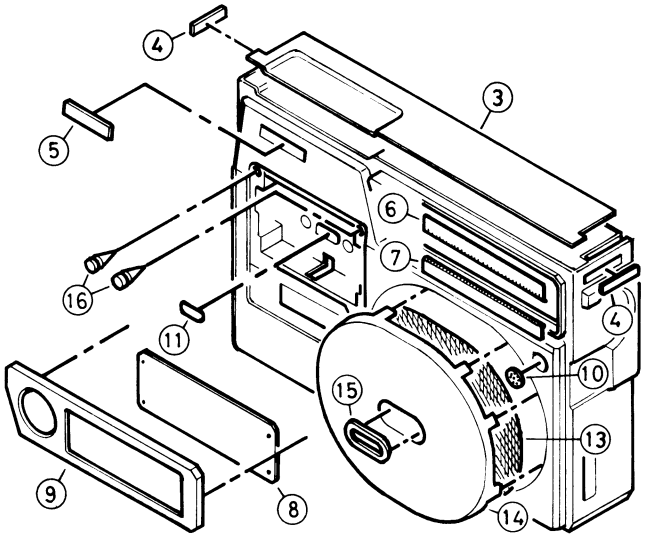


Fig. 15

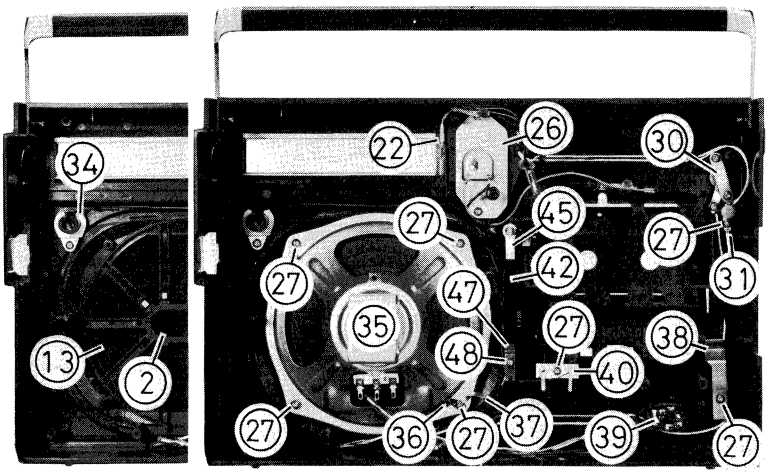


Fig. 16

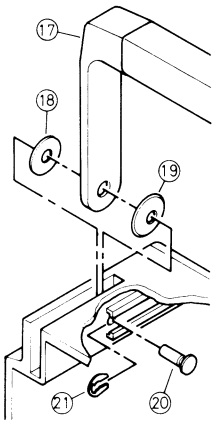


Fig. 17

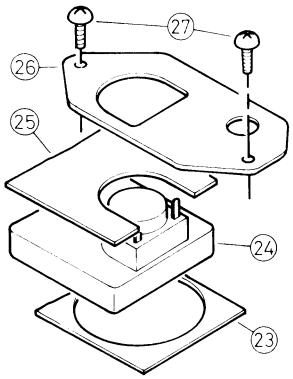


Fig. 18

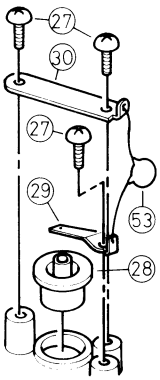


Fig. 19

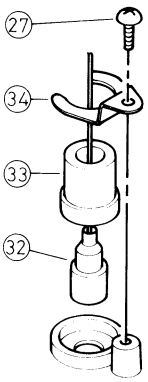


Fig. 20

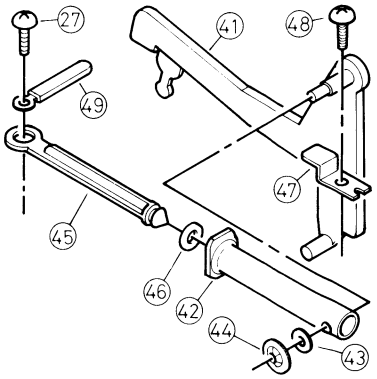


Fig. 21

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Ref. No.	Parts No.	Parts Name	Description	Q'ty
1~16	**ZC9501LS-CBF**	**Front Cabinet Ass'y**		1
1	V10322-001	Front Cabinet		1
2	V44875-001	Spacer	Heat-caulked	1
3	V20682-002	Control Plate	Glued	1
4	V44790-001	Side Plate	"	2
5	QXM2251-001	Mark	"	1
6	V31103-002	Dial Scale	" (LW)	1
7	V31104-002	"	" (FM)	1
8	V31112-001	Dial Lens	"	1
9	V31102-001	Dial Panel	"	1
10	V44789-001	Microphone Escutcheon	"	1
11	T47610-001	Reflection Plate	"	1
12	V44791-002	Counter Plate	"	1
13	V31108-001	Spacer	"	1
14	V20683-001	Panching Panel	"	1
15	V31125-001	Cellular Ring	Glued	1
16	V44394-001	Stopper Cushion	Force-fitted	2
17	V44348-00F	Handle Ass'y		1
18	03084-498	Washer	Glued	2
19	V44314-002	Spacer		2
20	V43927-004	Stud		2
21	V43996-001	U-Type Ring	Force-fitted	2
22	QLP3101-311	Pilot Lamp	9V 55mA	1
23	V44794-001	Indicator Rubber		1
24	V03020-050	Indicator		1
25	V44795-001	Indicator Pad		1
26	V44796-001	Bracket		1
27	SBSB3010Z	Screw		14
28	V44792-001	Knob	Check Light	1
29	V41299-005	Contact	S401	1
30	V44793-001	Clamp	S401	1
31	V41208-003	Tab		1
32	VMME62N-006	Condenser Microphone		1
33	V44859-001	Microphone Holder		1
34	V44604-001	Microphone Bracket		1
35	EAS16P111SA	Speaker	16cm (6-1/2") 8Ω	1
36	V42603-003	Wire Clamp		1
37	V42603-2	"		1
38	V44650-002	Door Spring		1
39	—	Circuit Board Ass'y	Headphone	1
40	P4793E	Terminal Board Ass'y		1
41	V31105-001	Brake Arm		1
42	V44830-00A	Brake Pipe Ass'y		1
43	WNS3000N	Washer		1
44	NSE3000	Push Nut		1
45	V44808-001	Brake Shaft		1
46	TER267508-02	O-Ring		1
47	V43199-1	Door Holder		1
48	SBSB3008Z	Screw		1
49	V42603-003	Wire Clamp		1
50	V31113-00A	Cassette Case Ass'y		1
51	VXK0040-30010	Knob	Tuning	1
52	VXKP225-20010	"	Fine Tuning	1
53	QCY41HK-332	Ceramic Capacitor	C180 (3300pF, 50V)	1

Exploded View of Rear Cabinet

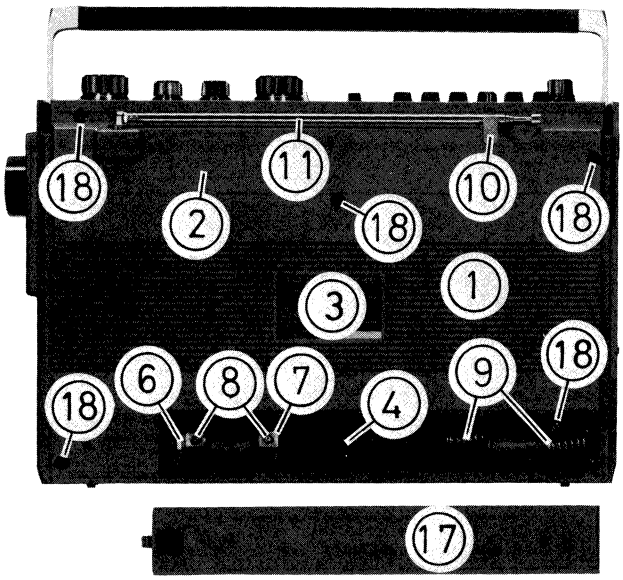

Fig. 22

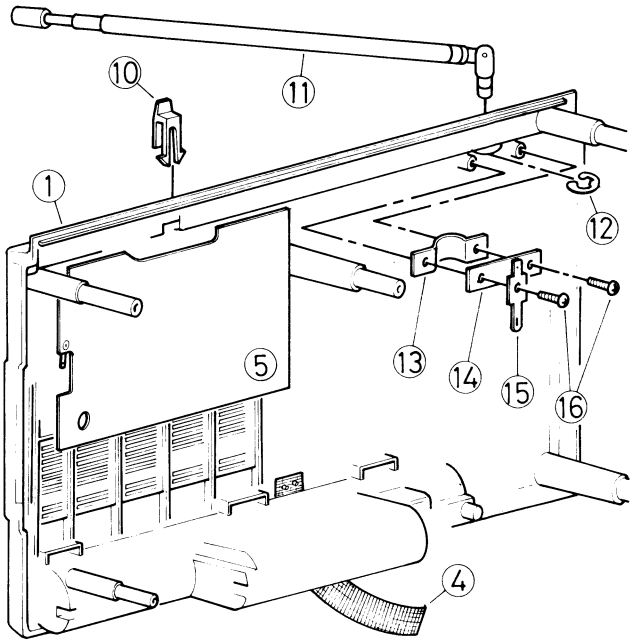

Fig. 23

Ref. No.	Parts No.	Parts Name	Description	Q'ty
1~5	**ZC9501LS-CBR**	**Rear Cabinet Ass'y**		**1**
1	V10323-001	Rear Cabinet		1
2	V44903-001	Plate	Glued	1
3	VYN5031-002C	Name Plate	"	1
4	V41583-3	Tape	"	1
5	V44803-00A	Shield Ass'y	"	1
6	V42989-006	Battery Contact		1
7	V42989-007	"		1
8	SBSB3010Z	Screw		2
9	53738-1	Spring	Force-fitted	2
10	V44618-001	Antenna Catcher	"	1
11	QZR4234-001U	Rod Antenna		1
12	REE6000	E-Ring		1
13	V44195-002	Rod Antenna Holder		1
14	V44196-002	"		1
15	V41208-003	Tab		1
16	SBSB3010Z	Screw		2
17	**ZC9501LS-BCA**	**Battery Cover Ass'y**		**1**
18	V43899-1	Special Screw		5

Exploded View of Tuner Ass'y

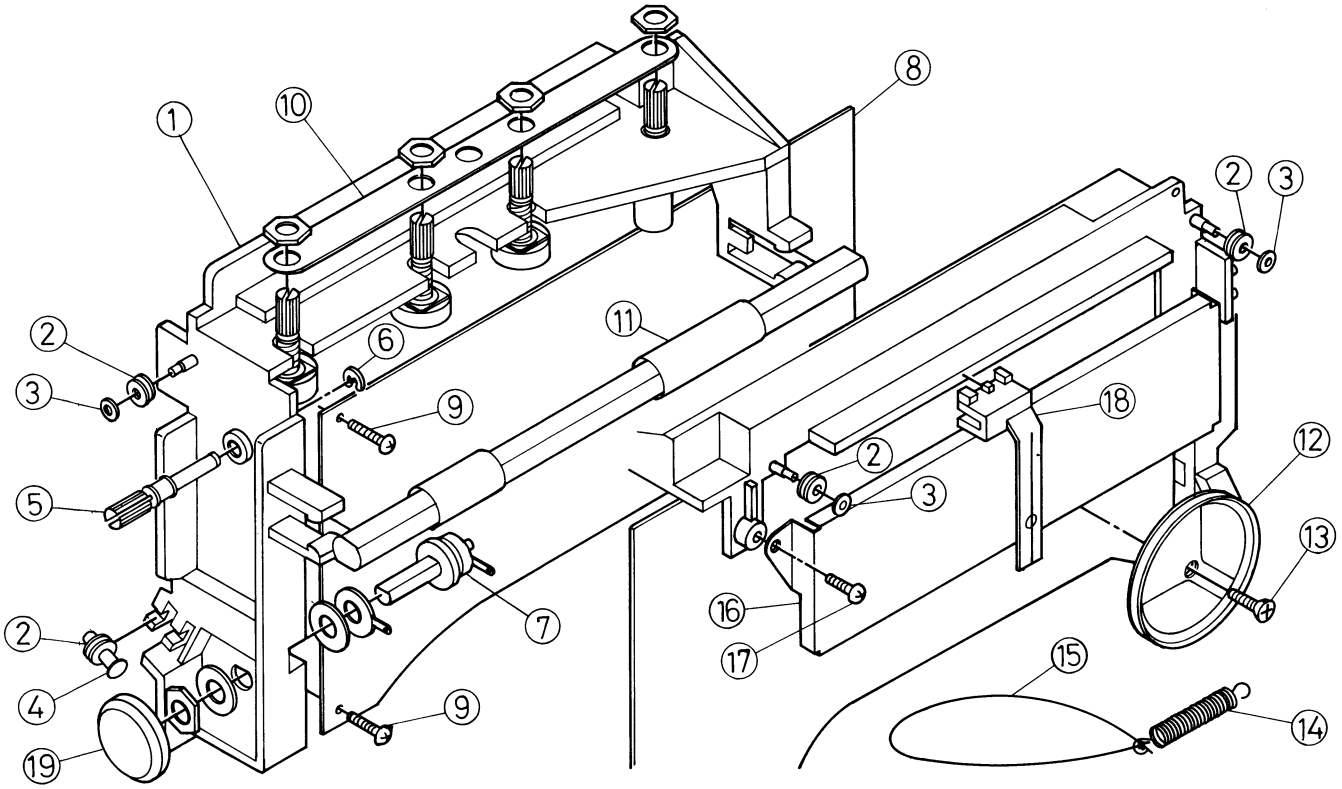

Fig. 24

Ref. No.	Parts No.	Parts Name	Description	Q'ty
1	V20680-001	Chassis		1
2	V40409-3	Roller		4
3	V42562-1	Special Washer		3
4	RTA3010	Rivet		1
5	V41336-019	Tuning Shaft		1
6	REE3000	E-Ring		1
7	QAT5001-201	Midget Variable Capacitor	VC5 (Fine Tuning)	1
8	–	Circuit Board Ass'y	Tuner	1
9	SBSB3010Z	Screw		2
10	V44799-001	Earth Plate		1
11	VQB016B-202	Bar Antenna Ass'y	L5, 6	1
12	QZD1108-001	Dial Drum		1
13	SSSP2608Z	Screw		1
14	50153-3	Spring		1
15	VHR2TKS-07A	Dial Cord	Kevlar	1
16	V31106-002	Dial Scale		1
17	SBSB3008Z	Screw		1
18	V44800-001	Needle		1
19	VXKP225-20010	Knob	Fine Tuning	1

Exploded View of Amplifier Ass'y

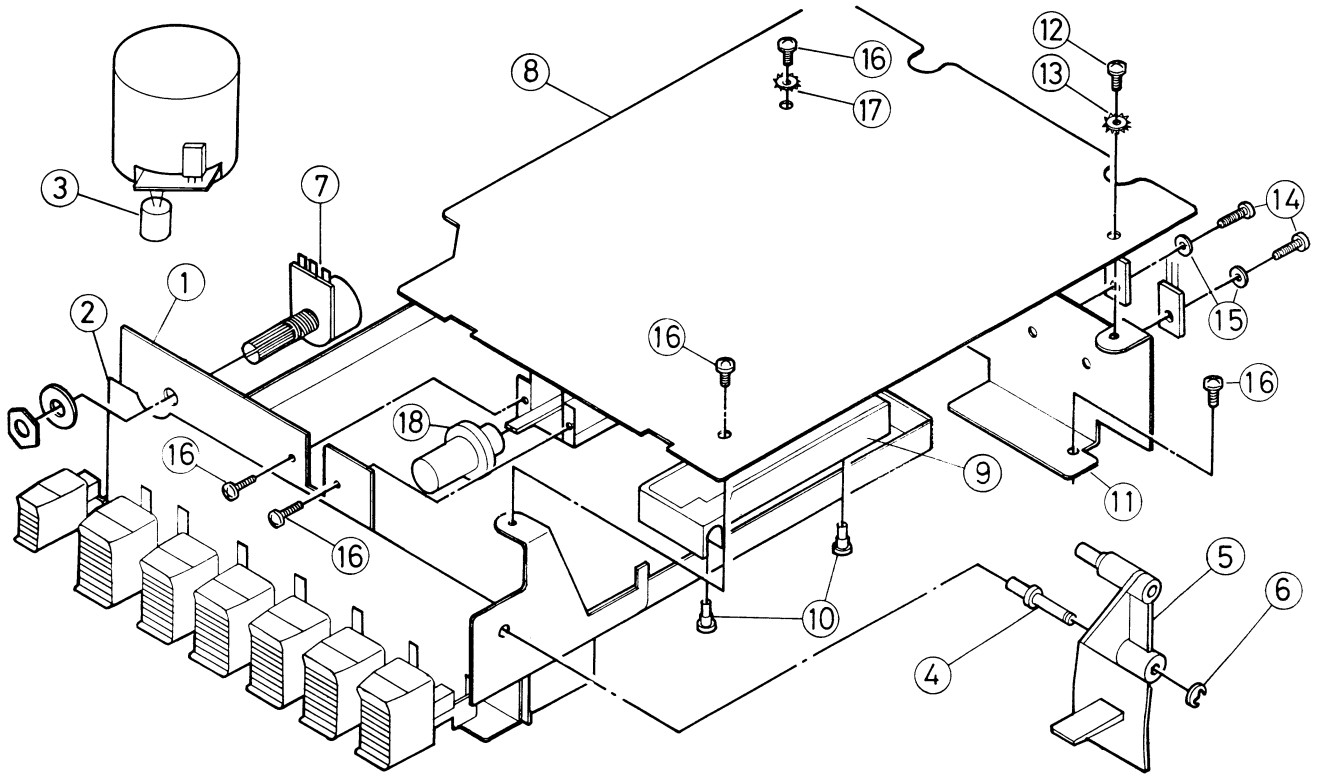

Fig. 25

Ref. No.	Parts No.	Parts Name	Description	Q'ty
1	–	Cassette Mechanism		1
2	V44869-001	Spacer	Glued	1
3	QEW41CA-477	Electrolytic Capacitor	C182 (470μF, 16V)	1
4	V43773-1	Lever Shaft		1
5	V31107-001	Toggle Lever		1
6	V44239-001	Bowed Ring		1
7	QVG4A2W-024	Variable Resistor	R110 (20kΩ, W-curve)	1
8	–	Circuit Board Ass'y	Amplifier	1
9	V31005-001	Slider		1
10	V42583-2	Stud		2
11	V44801-001	Radiation Plate	Heat-sink	1
12	SPSP2606Z	Screw		1
13	WBS2600N	Toothed Lock Washer		1
14	SPSP3008ZS	Screw		2
15	No. 74	Washer		2
16	SPSP2606Z	Screw		5
17	WBS2600N	Toothed Lock Washer		1
18	V44813-001	Push Knob		1

Wiring Connection

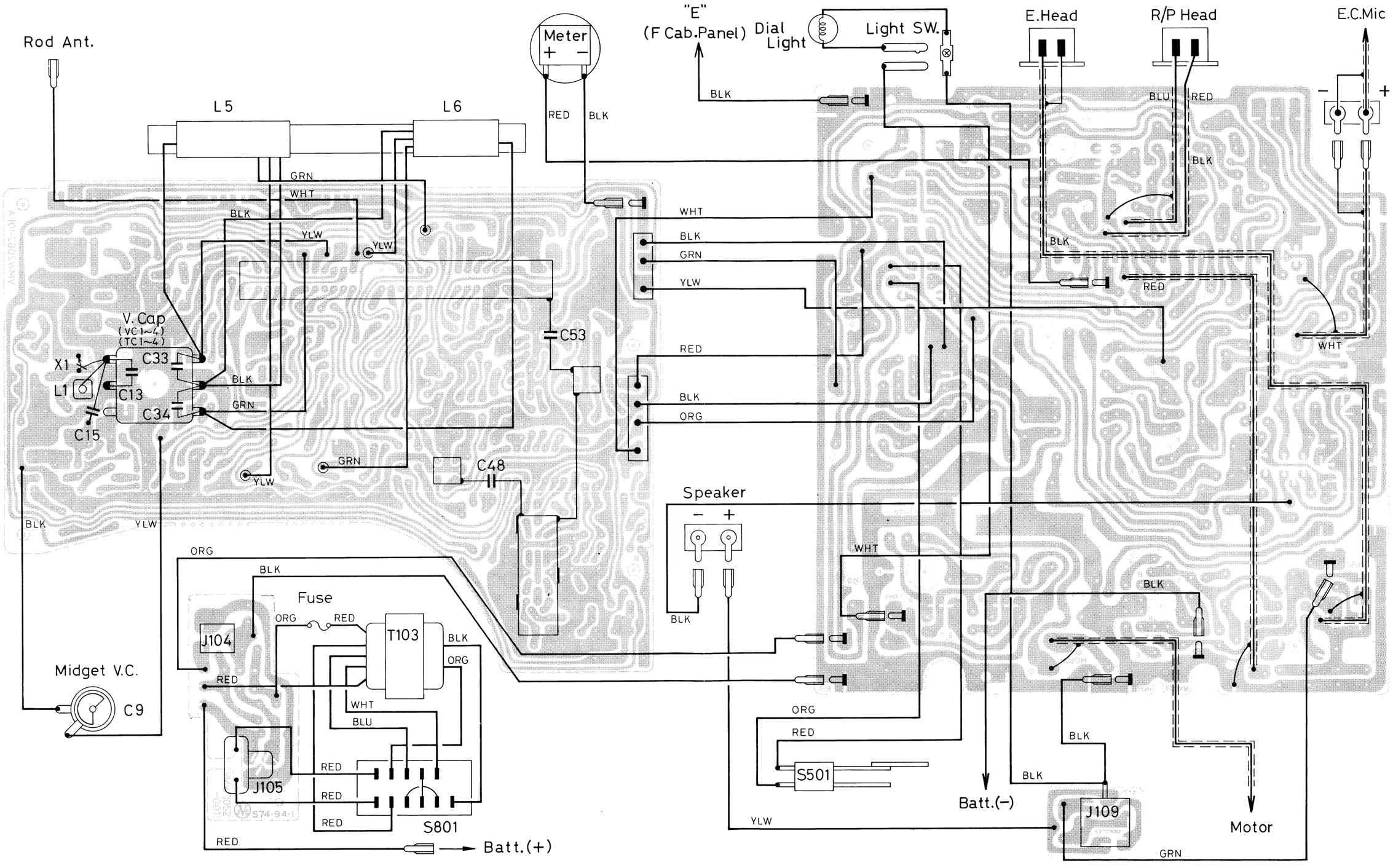

Fig. 26

Exploded View of Cassette Mechanism

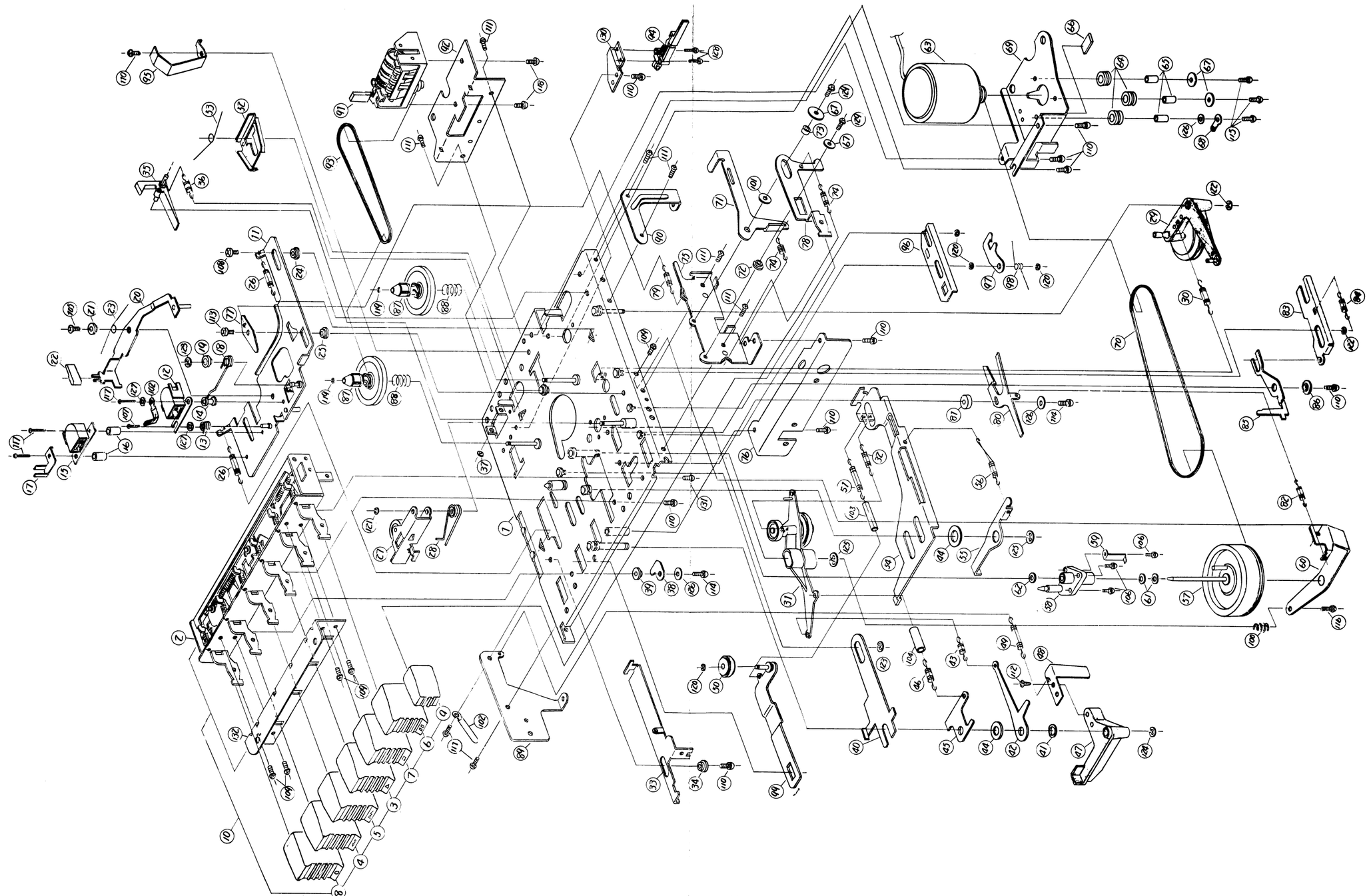

Fig. 27

List of Cassette Mechanism

Ref. No.	Parts No.	Parts Name	Description	Q'ty
1	8880181ZT	Chassis Ass'y		1
2	8880291ZT	Push Button Switch Ass'y		1
3	TJB325301-01	Push Button	PLAY	1
4	,, -02	,,	REVIEW	1
5	,, -03	,,	CUE	1
6	,, -04	,,	PAUSE	1
7	,, -05	,,	STOP	1
8	,, -06	,,	RECORD	1
9	TBJ325302-01	Eject Button		1
10	8880271ZT	Push Switch Composite Ass'y		1
11	4080481ZT	Head Panel Ass'y		1
12	V03078-029	R/P Head		1
13	480408T	Spring		1
14	4080402T	R/P Head Stud		1
15	V03078-026	Erase Head		1
16	4080435T	Stud		2
17	4080430T	Wire Clamp		1
18	4080405T	R.Q Spring		1
19	4080412T	Collar		1
20	4080482ZT	Stop Detect Lever Ass'y		1
21	4080414T	Collar		1
22	4531301T	Stop Detect Contact		1
23	4080415T	Spring		1
24	4080411T	Collar		1
25	5420402T	Collar (A)		1
26	4080413T	Spring		2
27	4080591ZT	Pinch Roller Ass'y		1
28	4080503T	Pinch Roller Spring		1
29	4080791ZT	Clutch Ass'y		1
30	2380406T	Spring		1
31	4080891ZT	FF Idler Arm Ass'y		1
32	581316T	Spring		1
33	4080301T	Record Slide Lever		1
34	030304T	Collar		1
35	2680503T	Record Safety Lever		1
36	1320303T	Spring		1
37	NSS1900F	Push Nut		1
38	Blank No.			
39	Blank No.			
40	4080806T	RQ Function Plate		1
41	1510305T	Special Washer		1
42	4080804T	FF Function Plate		1
43	4080810T	Spring		1
44	110505T	Special Washer		2
45	4080805T	Rewind Function Plate		1
46	4080812T	Spring		1
47	TEP047419-01	Record Lever		1
48	8880301T	Record Spring		1
49	580301T	Spring		1
50	2110902T	Rewind Idler Ass'y		1
51	020905BT	Spring		1
52	4080901T	Brake Arm		1
53	8200902T	Spring		1
54	4080903T	Brake Function Plate		1
55	4080807T	RQ Lever		1
56	4080811T	Spring		1
57	580903ZT	Flywheel Ass'y		1
58	3690701T	FI Block		1
59	4460701T	Earth Plate		1
60	4081195ZT	Flywheel Bracket Ass'y		1
61	031504T	Special Washer		2
62	031503T	Special Washer		1
63	MHi5F9CL	Motor		1
64	T45687-001	Rubber Cushion		3
65	4081211T	Motor Collar		3
66	4461102T	Mat		1

Ref. No.	Parts No.	Parts Name	Description	Q'ty
67	031501T	Washer		2
68	4081210T	Lug		1
69	8881230T	Motor Bracket		1
70	4081203T	Main Belt	ϕ80x□1.2	1
71	5841301T	Eject Lever		1
72	5841307T	Collar		1
73	5841306T	Collar		1
74	581316T	Spring		2
75	8881302T	Eject Bracket		1
76	8881305T	Volume Bracket		1
77	5841304T	Eject Stopper		1
78	5841303T	Eject Slide Lever		1
79	581316T	Spring		1
80	4081405T	Auto Stop Lever		1
81	4081402T	Collar		1
82	020708T	Spring		1
83	4081581ZT	Slide Lever Ass'y		1
84	4081510T	Spring		1
85	4081503T	Pinch Roller Arm Lever		1
86	2381304T	Collar		1
87	5720695ZT	Reel Disk Ass'y		2
88	050502T	Spring		2
89	8881601T	Side Bracket		1
90	5841602T	Bracket		1
91	V30712-009	Tape Counter		1
92	5841701T	Counter Bracket		1
93	1260104T	Counter Belt	ϕ53x□1	1
94	6251804T	Main Switch		1
95	8880110T	Pack Spring		1
96	5581681ZT	Pause Slide Lever Ass'y		1
97	5421801T	Pause Lever		1
98	5421803T	Pause Lever Spring		1
99	4081081ZT	Rewind Idler Arm		1
100	060405T	Spring		1
101	2570501T	Washer	ϕ7.5xϕ4.8xt0.1	1
102	4660901T	Wire Clamp		2
103	—	Tuber	ϕ4xϕ3xℓ24	1
104	—	,,	ϕ4xϕ3xℓ8	1
105	SSSP2005Z	Screw		1
106	LPSP2005Z	Ass'y Screw		3
107	SPSX2006Z	Screw		1
108	SDSP2604Z	,,		1
109	LPSP2604Z	Ass'y Screw		5
110	LPSP2605Z	,,		11
111	SPSD2604Z	T.H TAP. Screw		8
112	SBSB2606Z	Screw		1
113	SDSP2606Z	,,		1
114	LPSP2607Z	Ass'y Screw		1
115	SPSP2607Z	Screw		3
116	SPSP2610Z	,,		1
117	SPSP2011Z	,,		3
118	SPSP3005ZS	,,		2
119	REE1200	E-Ring		2
120	REE1500	,,		4
121	REE1900	,,		1
122	REE2000	,,		2
123	REE2500	,,		2
124	REE3200	,,		1
125	REE4000	,,		2
126	WNS2600	Washer		2
127	WNS2000	,,		2
128	SPSP2008Z	Screw		2
129	LPSP2606Z	Ass'y Screw		2
130	8201801T	Switch Bracket		1
131	SPSP2604Z	Screw		1
132	8880213T	Frame Bracket		1

9501LS
No. 1325

Tuner Circuit Board Ass'y

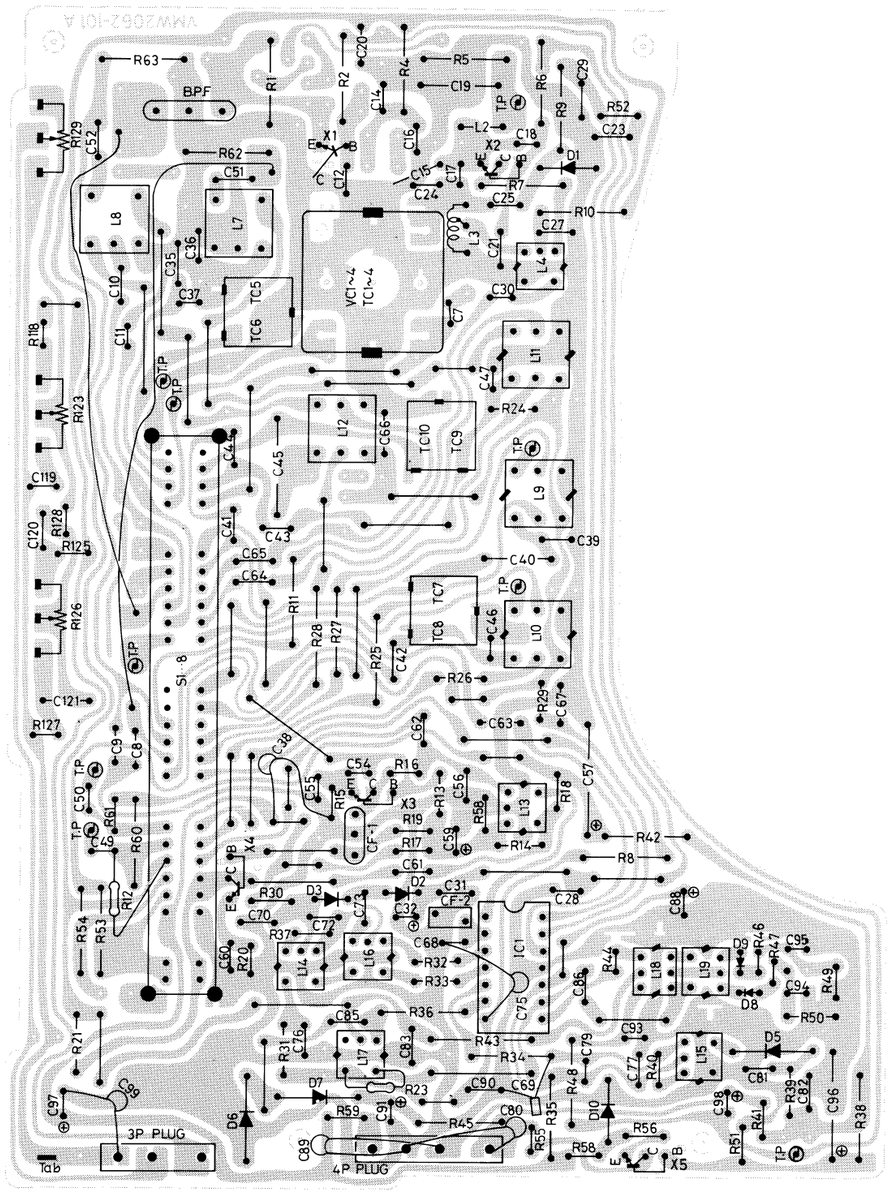

Fig. 28

Transistors

Ref. No.	Parts No.	Description	Pc	fT
X1	2SC461(B)	Silicon (HITACHI)	200mW	230MHz
X2	2SC535(B)	" (")	100mW	700MHz
X3, 4	2SC460(B)	" (")	200mW	230MHz
X5	2SA564(Q)	" (MATSUSHITA)	250mW	80MHz

IC & Diodes

Ref. No.	Parts No.	Parts Name	Description
IC1	AN203(C)	Integrated Circuit	MATSUSHITA
D1	1S2790	Variable Capacitance Diode	HITACHI
D2, 3, 10	HV80	Silicon Diode	"
D5, 6, 7	OA90	Germanium Diode	MATSUSHITA
D8, 9	2OA90	"	"

Resistors

Ref. No.	Parts No.	Parts Name	Description	
R1, 6, 8	QRD141K-472	Carbon	4.7kΩ	¼W
R2, 54	" -332	"	3.3kΩ	"
R4	" -471	"	470Ω	"
R5	" -182	"	1.8kΩ	"
R7, 11, 36	" -470	"	47Ω	"
R9	" -104	"	100kΩ	"
R10	" -102	"	1kΩ	"
R13, 14	QRD143K-823	"	82kΩ	"
R15	" -471	"	470Ω	"
R16	" -391	"	390Ω	"
R17, 20, 23, 30	" -102	"	1kΩ	"
R18	" -223	"	22kΩ	"
R19, 40	" -104	"	100kΩ	"
R21	" -222	"	2.2kΩ	"
R24	" -682	"	6.8kΩ	"
R25	QRD141K-152	"	1.5kΩ	"
R26	QRD143K-821	"	820Ω	"
R27	QRD141K-561	"	560Ω	"
R28	" -221	"	220Ω	"
R29, 37	QRD143K-224	"	220kΩ	"
R31	" -472	"	4.7kΩ	"
R32	" -151	"	150Ω	"
R33, 59	" -470	"	47Ω	"
R34, 35	QRD141K-101	"	100Ω	"
R38	QRD141K-333	"	33kΩ	"
R39	QRD143K-561	"	560Ω	"
R41	" -273	"	27kΩ	"
R42	QRD141K-103	"	10kΩ	"
R43	QRD143K-122	"	1.2kΩ	"
R44	" -181	"	180Ω	"
R45	QRD141K-122	"	1.2kΩ	"
R46	QRD143K-102	"	1kΩ	"
R47, 53	QRD141K-102	"	"	"
R48	" -472	"	4.7k Ω	"
R49, 50	QRD143K-103	"	10kΩ	"
R51	" -333	"	33kΩ	"
R52	" -474	"	470kΩ	"
R55	QRD143K-221	"	220Ω	"
R56	" -560	"	56Ω	"
R58	" -223	"	22kΩ	"
R60	QRD141K-272	"	2.7kΩ	"
R61	QRD143K-472	"	4.7kΩ	"
R62, 63	QRD141K-223	"	22kΩ	"
R123	QVG4A2A-015	Variable	100kΩ	A-curve
R125	QRD143K-822	Carbon	8.2kΩ	¼W

Ref. No.	Parts No.	Parts Name	Description
R126	QVG4A2B-015	Variable	100kΩ B-curve
R127	QRD143K-272	Carbon	2.7kΩ ¼W
R128	" -562	"	5.6kΩ "
R129	QVG4A2A-024	Variable	20kΩ A-curve

Capacitors

Ref. No.	Parts No.	Parts Name	Description
C4	QCS11HK-181	Ceramic	180pF 50V
C5	QCF11EZ-473	"	0.047μF 25V
C6	QCS11HK-151	"	150pF 50V
C7	QCS11HJ-4R0	"	4pF "
C8, 9	QCS11HK-150	"	15pF "
C10	" -470	"	47pF "
C11	" -300	"	30pF "
C12, 16, 21	QCF11EZ-103	"	0.01μF 25V
C13	QCS11HJ-200	"	20pF 50V
C14	QCY41HK-102	"	1000pF "
C15	QCS11HJ-5R0	"	5pF "
C17	QCT05CH-7R0	"	7pF "
C18	" -220	"	22pF "
C19	QFS21HJ-331	Polystyrol	330pF "
C20	QCS11HK-680	Ceramic	68pF "
C23, 28	" -151	"	150pF "
C24	QCT05CH-180	"	18pF "
C25	" -5R0	"	5pF "
C27,58,66,67	QCF11EZ-473	"	0.047μF 25V
C29, 31	QFM41HM-223	Mylar	0.022μF 50V
C30	QCY41HK-222	Ceramic	2200pF "
C32	QEW41HA-474	Electrolytic	0.47μF "
C33,37,41,43	QCS11HJ-300	Ceramic	30pF "
C34	" -4R0	"	4pF "
C35, 44	" -510	"	51pF "
C36, 47	" -100	"	10pF "
C38, 48, 53	QCS11HK-151	"	150pF "
C39	QCS11HJ-180	"	18pF "
C40	QFS21HJ-131	Polystyrol	130pF "
C42	QCS11HJ-271	Ceramic	270pF "
C45	QFS21HJ-332	Polystyrol	3300pF "
C46	QCT05YK-4R0	Ceramic	4pF "
C49	QFM41HM-222	Mylar	2200pF "
C50	" -472	"	4700pF "
C51, 52,63	QCY41HK-472	Ceramic	" "
C54	QCS11HK-200	"	20pF "
C55, 60, 76	QCF11EZ-223	"	0.022μF 25V
C56	QCS11HK-471	"	470pF 50V
C57	QEW21EA-475	Electrolytic	4.7μF 25V
C59	QEW41AA-336	Electrolytic	33μF 10V
C61, 62	QCF11EZ-103	Ceramic	0.01μF 25V
C64	QCY41HK-222	"	2200pF 50V
C65	" -102	"	1000pF "
C68	" -152	"	1500pF "
C69, 70, 77	QFM41HM-223	Mylar	0.022μF "
C72	QCS11HK-331	Ceramic	330pF "
C73	" -5R0	"	5pF "
C75, 80	" -151	"	150pF "
C79	QFM41HM-102	Mylar	1000pF "
C81	" -103	"	0.01μF "
C82	QCY41EK-103	Ceramic	0.01μF 25V
C83, 90	QFM41HM-223	Mylar	0.022μF 50V
C85	QCS11HK-8R0	Ceramic	8pF "
C86	" -3R0	"	3pF "
C88, 97	QEW41AA-107	Electrolytic	100μF 10V
C89, 94, 95	QCY41HK-102	Ceramic	1000pF 50V
C91	QEW41AA-476	Electrolytic	47μF 10V
C93	QFM41HK-822	Mylar	8200pF 50V
C96	QEW21HA-474	Electrolytic	0.47μF "
C98	QEW41HA-105	"	1μF "
C99	QCS11HK-101	Ceramic	100pF "
C118	QCY41HK-222	"	2200pF "
C119	QFM41HK-153	Mylar	0.015μF "
C120	" -333	"	0.033μF "
C121	" -104	"	0.1μF "
VC1~4	QAP1224-504	Variable	includes TC1~4
TC5-6, 7-8, 9-10	QAT2002-001	Trimmer	

Others

Ref. No.	Parts No.	Parts Name	Description
L1	V03105-8	Coil	FM RF
L2	03226-1L	Inductor	FM IF
L3	V03080-3	Coil	FM Osc.
L4	VQT7F12-103	I.F.T.	FM
L7	VQR1001-207	Coil	SW1 Antenna
L8	VQR1014-202	"	SW2 "
L9	V03083-013	"	LW Osc.
L10	VQM1T03-201	"	MW "
L11	V03101-025	"	SW1 "
L12	"	"	SW2 "
L13	VQT7A10-101	I.F.T.	AM
L14	VQT7A11-201	"	"
L15	" -302	"	"
L16	VQT7F11-204	"	FM
L17	V03068-26	"	"
L18	VQT7F15-502	"	"
L19	VQT7F16-602	"	"
B1	V03121-002	Band Pass Filter	FM Antenna Antenna
CF1	V03059-3	Ceramic Filter	
CF2	" -012	"	
S1~8	QSR5685-200	Rotary Slide Switch	BAND Select
	QMC0329-001	3-pin Plug	
	QMC0429-001	4-pin Plug	
Tab	V43895-1	Tab	
T.P.	V04041-1	Test Point	
CLAMP	V44691-001	Wire Clamp	

Amplifier Circuit Board Ass'y

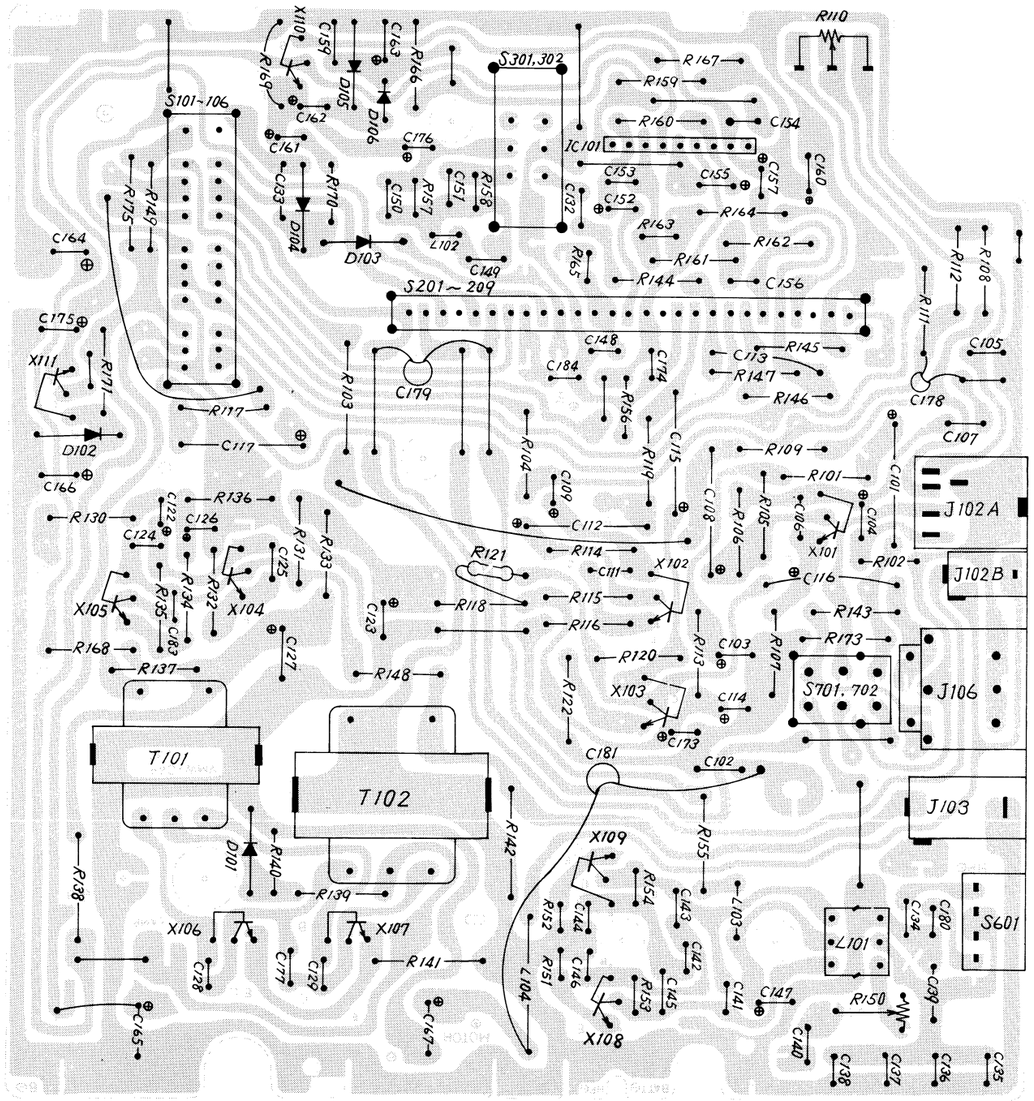

Fig. 29

Transistors

Ref. No.	Parts No.	Parts Name	Pc	fT
X101~105	2SC536(F) AUD	Silicon (SANYO)	200mW	150MHz
X106, 107	2SC1568(R,S)	" (MATSUSHITA)	4W	"
X108~111	2SC536(F) AUD	" (SANYO)	200mW	"

IC & Diodes

Ref. No.	Parts No.	Parts Name	Description
IC101	BA313	Integrated Circuit	TOYO DENGU
D101	10D1	Silicon Diode	J.I.R.C
D102	HZ6B	Zener Diode	HITACHI
D103, 104	1S188FM	Germanium Diode	SANYO
D105, 106	KX1	Silicon Diode	HITACHI

Resistors

Ref. No.	Parts No.	Parts Name	Description	
R101	QRD141K-222	Carbon	2.2kΩ	¼W
R102	QRD143K-103	"	10kΩ	"
R103	QRD141K-273	"	27kΩ	"
R104	" -153	"	15kΩ	"
R105	" -332	"	3.3kΩ	"
R106	" -154	"	150kΩ	"
R107	" -121	"	120Ω	"
R108, 109	" -562	"	5.6kΩ	"
R110	QVG4A2W-024	Variable	20kΩ	W-curve
R111, 112, 147	QRD141K-153	Carbon	15kΩ	¼W
R113	" -471	"	470Ω	"
R114	" -564	"	560kΩ	"
R115, 117, 164	" -562	"	5.6kΩ	"
R116, 118, 168	" -101	"	100Ω	"
R119	" -683	"	68kΩ	"
R120	" -684	"	680kΩ	"
R121	QRD143K-392	"	3.9kΩ	"
R122	QRD141K-391	"	390Ω	"
R130	" -561	"	560Ω	"
R131	" -272	"	2.7kΩ	"
R132, 136	" -151	"	150Ω	"
R133	" -271	"	270Ω	"
R134	" -180	"	18Ω	"
R135, 149, 159	" -563	"	56kΩ	"
R137	" -222	"	2.2kΩ	"
R138	QRC121K-470	Composition	47Ω	½W
R139, 145	QRD141K-102	Carbon	1kΩ	¼W
R140	QRD143K-221	"	220Ω	"
R141	QRW121K-R47	Wire Wound	0.47Ω	½W
R142	QRC121K-680	Composition	68Ω	"
R143	QRD141K-105	Carbon	1MΩ	¼W
R144	" -822	"	8.2kΩ	"
R146	" -333	"	33k Ω	"
R148	" -823	"	82kΩ	"
R150	QVP8A0B-024	Variable	20kΩ	B-curve
R151, 152	QRD143K-4R7	Carbon	4.7Ω	¼W
R153, 154, 156	" -333	"	33kΩ	"
R155	QRD141K-100	"	10Ω	"
R157	QRD143K-123	"	12kΩ	"

Ref. No.	Parts No.	Parts Name	Description	
R158	QRD143K-223	Carbon	22kΩ	¼W
R160	QRD141K-104	"	100kΩ	"
R161	" -682	"	6.8kΩ	"
R162	" -154	"	150kΩ	"
R163	QRD143K-273	"	27kΩ	"
R165	" -100	"	10Ω	"
R166, 175	QRD141K-105	"	1MΩ	"
R167	" -221	"	220Ω	"
R169, 173	" -102	"	1kΩ	"
R170	QRD143K-561	"	560Ω	"
R171	QRD141K-331	"	330Ω	"

Capacitors

Ref. No.	Parts No.	Parts Name	Description	
C93	QFM41HM-223	Mylar	0.022μF	50V
C101, 108	QEW21CA-106	Electrolytic	10μF	16V
C102	QCS11HK-471	Ceramic	470pF	50V
C103	QEW41AA-107	Electrolytic	100μF	10V
C104, 109	QEW41CA-106	"	10μF	16V
C105	QCS11HK-221	Ceramic	220pF	50V
C106, 111	" -101	"	100pF	"
C107	QCY41HK-222	"	2200pF	"
C112	QEW21HA-105	Electrolytic	1μF	"
C113, 125	QCY41HK-102	Ceramic	1000pF	"
C114	QEW41AA-107	Electrolytic	100μF	10V
C115, 116, 117	QEW21CA-106	"	10μF	16V
C122, 152	QEW41EA-475	"	4.7μF	25V
C123	QEW41AA-477	"	470μF	10V
C124	QCS11HK-241	Ceramic	240pF	50V
C126	QEW41AA-476	Electrolytic	47μF	10V
C127, 165	QEW41CA-228	"	2200μF	16V
C128, 129	QFM41HK-103	Mylar	0.01μF	50V
C132, 134	QCY41HK-472	Ceramic	4700pF	"
C133	QFM41HK-223	Mylar	0.022μF	"
C135, 136, 137	QCY41HK-152	Ceramic	1500pF	"
C138, 148	" -222	"	2200pF	"
C139	" -103	"	0.01μF	"
C140	QCS11HK-331	"	330pF	"
C141, 144, 146	QFM41HK-223	Mylar	0.022μF	"
C142, 151	QCY41HK-102	Ceramic	1000pF	"
C143, 145	" -332	"	3300pF	"
C147	QEW41AA-227L14	Electrolytic	220μF	10V
C149	QCS11HJ-421	Ceramic	420pF	50V
C150	QCY41HK-272	"	2700pF	"
C153, 181	QCS11HK-101	"	100pF	"
C154	" -680	"	68pF	"
C155, 163	QEW41AA-336	Electrolytic	33μF	10V
C156	QFM41HK-153	Mylar	0.015μF	50V
C157	QEW41CA-106	Electrolytic	10μF	16V
C159	QCS11HK-471	Ceramic	470pF	50V
C160	QEW41AA-477D11	Electrolytic	470μF	10V
C161, 162, 175	QEW41HA-105	"	1μF	50V
C164	QEW41AA-477	"	470μF	10V
C166	" -227	"	220μF	"
C167	QEW41CA-108	"	1000μF	16V
C173	QEW41AA-107	"	100μF	10V

— Continued on next page —

— Continued from page 21 —

Ref. No.	Parts No.	Parts Name	Description
C174	QCY41HK-681	Ceramic	680pF 50V
C176	QEW41EA-475	Electrolytic	4.7μF 25V
C177, 178	QCY41HK-102	Ceramic	1000pF 50V
C179	QCF11EZ-103	"	0.01μF 25V
C180	QCY41HK-152	"	1500pF 50V
C183	QCS11HK-470	"	47pF "
C184	QCF11EZ-473	"	0.047μF 25V

Others

Ref. No.	Parts No.	Parts Name	Description
L101	V03083-019	Coil	Bias Osc.
L102	03226-17	Inductor	
L103	" -2	"	
L104	T41572-001	Choke Coil	
T101	VTN24C2-10B	Input Transformer	
T102	V03075-10	Output Transformer	
S101~106	QSS6301-023	Slide Switch	TAPE-RADIO
S201~209	QSS9201-001	"	PLAY-RECORD
S301~302	QSP2210-053	Push Switch	TAPE
S701, 702	" -061	"	DIN
J101~104,S601	V03104-050	Jack Board Ass'y	S601: BEAT CUT
J106	QMC9014-005	DIN Socket Ass'y	
TAB	V43895-1	Tab	
CLAMP	V44691-001	Wire Clamp	

Headphone Circuit Board Ass'y

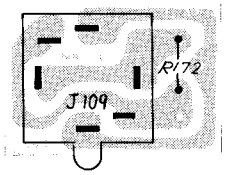

Fig. 30

Resistor

Ref. No.	Parts No.	Parts Name	Description
R172	QRD143K-151	Carbon	150Ω ¼W

Others

Ref. No.	Parts No.	Parts Name	Description
J109	QMS6301-008	Headphone Jack Ass'y	

Exploded View of Power Supply Ass'y

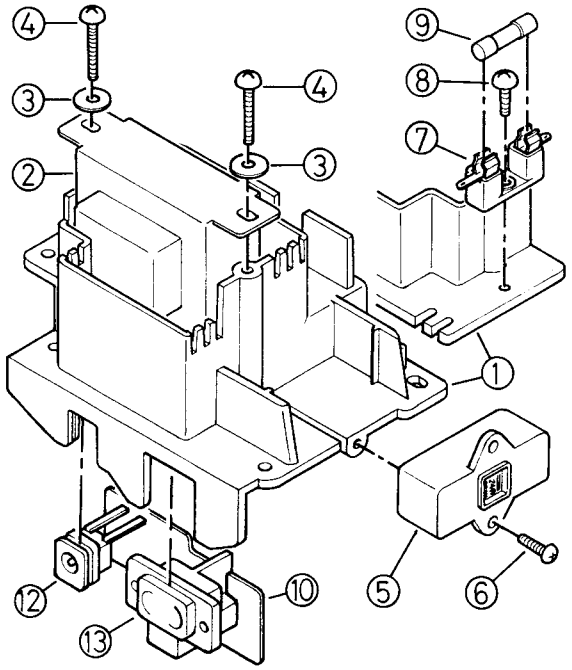

Fig. 31

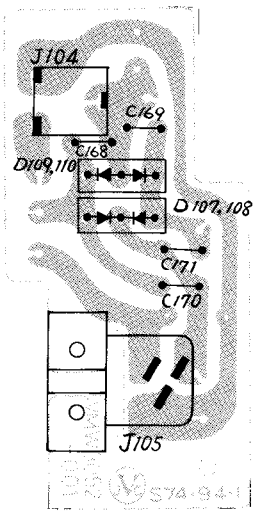

Fig. 32

Ref. No.	Parts No.	Parts Name	Description	Q'ty
1	V20685-001	AC Chassis		1
2	VTP48N2-90C	Power Transformer	T103	1
3	Q03091-105	Washer		2
4	SBSB3020Z	Screw		2
5	QSS2325-005	Slide Switch	S801	1
6	SBSB3010Z	Screw		1
7	QMG1321-002	Fuse Holder		1
8	SBSB3010Z	Screw		1
9	QMF51A2-1R0	Fuse	1AT	1
10	–	Circuit Board Ass'y	Power Supply	1
11	QMC0263-001	AC Socket Ass'y	J105	1
12	QMA0921-003	DC Jack Ass'y	J104	1

Diodes

Ref. No.	Parts No.	Parts Name	Description
D107, 108	DS131A	Silicon (SANYO)	Rectifier Stack
D109, 110	DS132A	" (")	"

Capacitors

Ref. No.	Parts No.	Parts Name	Description
C168~171	QCF11EZ-223	Ceramic	0.022μF 25V